

## Agreement with Coordinated Subjects in the World's Languages

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**Summary:** According to the literature, resolution of multiple values for  $\phi$ -agreement is subject to variation across languages, although there is no explanation for why languages vary in the way that they do. In this talk we present the first results of a large-scale elicitation study on agreement with coordinated subjects. A coordinated subject consists of two parts, which can be coordinated either by *and* (1-a) or by *or* (1-b). The parts are called *disjuncts* in coordinations with *or* (aka *disjunctions*) and *conjuncts* in coordinations with *and* (aka *conjunctions*).

- (1) a. [The boy $\phi_1$  *and* the man $\phi_2$ ] **run** $\phi_?$ .                      b. [The boy $\phi_1$  *or* the man $\phi_2$ ] **run** $\phi_?$ .

We discuss generalizations about the factors that influence the choice of the agreement strategy and provide an overview of the methods of elicitation and the functioning of the database.

**Background:** Information about agreement with coordinated subjects is rarely found in language grammars (see the results of Smith and Kerezova 2019). Though, in recent years, there has been a rising interest in agreement with coordinations, studies usually only looked at one or a handful of languages at once (e.g. Aoun et al. 1994, Munn 1999, Bošković 2009, Bhatt and Walkow 2013, Marušič et al. 2015, Murphy and Puškar 2018, Nevins and Weisser 2018). In these works, it has been observed that the presence of a coordinated subject can give rise to various agreement strategies: Most notably, there is resolved agreement (2-a), where the entire coordination seems to agree with the verb, and there is first or closest conjunct agreement (2-b), where only one conjunct agrees with the verb.

- (2) a. [ʕumar w ʕali] **mšaw**.  
           Omar and Ali left.3PL  
           ‘Omar and Ali left.’
- b. **Mša** [ʕumar w ʕali].  
           left.3SG Omar and Ali  
           ‘Omar and Ali left.’  
           (Moroccan Arabic, Aoun et al. 1994:207f.)

Comparing previous language-specific studies suggests that there are multiple factors that influence variation w.r.t. to the agreement strategy. Besides the factor language, there is evidence for effects of word order (Aoun et al. 1994), coordination type (*and* vs. *or*, cf. Marušič and Shen (2020)), and agreement features (Marušič et al. (2015)).

**Data elicitation and data access:** For our study, we have elicited data in various forms: via online surveys (posted on LinguistList and sent to colleagues and acquaintances) as well as standard one-to-one elicitation sessions. We have developed tools to allow us to semi-automatically generate language-specific questionnaires and thus collect data more time-efficiently. As for providing access to our data, we set up a free online database that contains all the data we have found so far. Users can filter the results by language, language family, agreement feature, word order, coordination type as well as agreement strategy. In the talk we will give a brief overview on how to use the database.

**Results:** Our database currently has 150 entries from 27 languages. Based on this, we can look at the distribution of the results with respect to languages, language families, features, coordination types, word orders, and agreement strategies. We found that the agreement strategy is influenced by all four factors. For reasons of space, we only present results for resolved agreement and closest conjunct agreement here. Note that we have found other agreement strategies as well (default agreement, ineffability, and optionality of agreement strategies). As for word order, it is noticeable that resolved agreement has a higher frequency under SV-order than under VS-order. Closest conjunct agreement is much more prevalent under VS-order.

### (3) *Effects of word order*

	SV	VS
Resolved Agreement	86.11%	41.46%
Closest Conjunct Agreement	1.85%	29.27%

As for the coordination type, resolved agreement is the dominant strategy for both *and* and *or*. Nevertheless, disjunctions have a greater tendency for closest conjunct agreement (which confirms the results of Marušič and Shen 2020).

(4) *Effects of coordination type*

	<b>and</b>	<b>or</b>
Resolved Agreement	81.82%	65.28%
Closest Conjunct Agreement	5.19%	13.89%

W.r.t agreement features, we did not find large differences: The most common strategy is resolved agreement. Gender, however, shows a slightly bigger tendency for closest conjunct agreement.

(5) *Effects of agreement feature*

	<b>number</b>	<b>gender</b>	<b>person</b>
Resolved Agreement	81.16%	76.92%	65.67%
Closest Conjunct Agreement	8.70%	15.38%	8.96%

Finally, regarding the cross-linguistic differences, languages differ in which strategies they show (more). There are intra-linguistic differences as well: One language can show multiple strategies. In (6), we illustrate this by comparing North Levantine Arabic and Turkish.

(6) *Effects of language: North Levantine Arabic vs. Turkish*

	<b>North Levantine Arabic</b>	<b>Turkish</b>
Resolved Agreement	75.00%	50.00%
Closest Conjunct Agreement	25.00%	12.50%

**Issues and Outlook:** At this point, there are two major issues with the database, which we hope to resolve by collecting more data. First, we do not have all possible data from all languages. We are particularly missing data on VS orders in a large number of languages. The reason for this is that we included the factor word order later in the study after the first survey. Our new questionnaire specifically elicits VS order as well and we are thus positive to catch up on VS data. Second, the database is not typologically balanced. The majority of entries are from Indo-European languages and Afro-Asiatic (specifically Semitic) languages. We hope to reduce this problem by specifically finding and contacting speakers from other language families. We are positive that the database will prove useful for theoretical linguistics as well as typological studies. Researchers can access the database to find data of a specific language and to find generalizations for language families as well as typological tendencies. Hopefully, the data can help to understand how coordinations resolve  $\phi$ -features and eventually shed some more light on the specifics of agreement. There are other database projects that collect language data to help find universal tendencies and cross-linguistic differences: see WALS (Dryer and Haspelmath 2013), TerraLing (Collins et al. 2013). As for coordinations specifically, Haslinger et al. (2019) have developed a database on TerraLing. Hopefully, we can also integrate our data into a larger project.

**References:** Aoun, J., E. Benmamoun and D. Sportiche (1994): ‘Agreement, Word Order, and Conjunction in Some Varieties of Arabic’, *Linguistic Inquiry* 25, 195–220. • Bhatt, R. and M. Walkow (2013): ‘Locating agreement in grammar: an argument from agreement in conjunctions’, *Natural Language and Linguistic Theory* 31, 951–1013. • Bošković, Ž. (2009): ‘Unifying first and last conjunct agreement’, *Natural Language and Linguistic Theory* 27, 455–496. • Collins, C., H., R. Kayne, D. Shasha, R. Kaffenberger, A. Lobascio, M. Liberati, O. Grishin, L. Zhang, H. Butt and A. Olivieri (2013): *TerraLing*. New York: Available online at <https://terraling.com/>. • Dryer, M. S. and M. Haspelmath (2013): *The World Atlas of Language Structures Online*. Leipzig: Max Planck Institute for Evolutionary Anthropology. (Available online at <http://wals.info>) • Haslinger, N., V. Panzirsch, E. Rosina, M. Roszkowski, V. Schmitt and V. Wurm (2019): A plural analysis of distributive conjunctions: Evidence from two cross-linguistic asymmetries. Ms., University of Vienna. • Marušič, F., A. Nevins and B. Badecker (2015): ‘The grammars of conjunction agreement in Slovenian’, *Syntax* 18, 39–77. • Marušič, F. and Z. Shen (2020): Gender Agreement with Exclusive Disjunction in Slovenian. Ms., University of Nova Gorica/National University of Singapore. • Munn, A. (1999): ‘First Conjunct Agreement: Against a Clausal Analysis’, *Linguistic Inquiry* 30, 643–668. • Murphy, A. and Z. Puškar (2018): ‘Closest conjunct agreement is an illusion’, *Natural Language and Linguistic Theory* 36, 1207–1261. • Nevins, A. and P. Weisser (2018): ‘Closest conjunct agreement’, *Annual Reviews of Linguistics* pp. 1–25. • Smith, P. and N. Kerezova (2019): A database on *and* and *or* in the world’s languages. Frankfurt: Goethe University. (Available online at <http://www.multivaluation.de/coordination.php>).